

ALTERNATING APERTURE PHASE SHIFTING PHOTOMASK
WITH IMPROVED TRANSMISSION BALANCING

ABSTRACT OF THE DISCLOSURE

The present disclosure describes an Alternating Aperture Phase Shifting (AAPS) photomask with improved transmission balance. The method includes forming an alternating aperture phase shifting photomask pattern on a substrate, including forming trenches within the substrate. The method further includes forming a transmission balancing layer over the substrate. More particularly, the method includes forming the transmission balancing layer from a material having a higher index of refraction than the substrate. In one embodiment the transmission balancing layer may be formed from spin on glass (SOG). Another embodiment of the invention may include an enhanced AAPS photomask fabricated according to the above method.